ADDITIONS TO AND SUBTRACTIONS FROM THE FLORA OF VIRGINIA

M. L. Fernald

(*Continued from page 115*)

Ctenium aromaticum (Walt.) Wood. To the very local stations in Virginia add one in Nansemond County: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,177.

Ordinarily *Ctenium aromaticum* fully justifies its name, the bruised bases emitting a delightful pungent fragrance suggestive of lemon. The clumps at the new station could not be induced to give off more than an uninteresting grassy odor. See p. 99.

*Anthoxanthum odoratum L., forma giganteum P. Junge. Abundant on roadsides of Nansemond and southwestern Norfolk Counties. Nansemond County: east of Magnolia, *Fernald & Moore*, no. 15,033.

The largest extreme of the species: the culms 0.6–1 m. high; panicle 7–14 cm. long, often interrupted; spikelets 1–1.2 cm. long. See p. 99.

Paspalum praecox Walt., var. Curtisianum (Steud.) Vasey (*P. lentiferum* Lam.). To the two local stations, one in eastern Sussex, one in southern Greensville, add a more extensive one in Nansemond County: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, nos. 15,192 and 15,193. See p. 99.

*Paspalum setaceum Michx., var. **calvescens,** var. nov. (tab. 1057), foliis angusto linearibus 1.5–3.5 mm. latis erectis valde elongatis glabris vel sparsissime strigosis.—Nansemond County, Virginia: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, September 8 and 12, 1946, *Fernald, Long & Clement*, no. 15,191 (type in Herb. Gray.; isotype in Herb. Phil. Acad.).

A second and more extensive colony was noted in another bog (Magnolia swamp) nearly a mile farther west. In the confusion caused by the rapid discovery of several notable plants the present writer laid down and forgot the series collected from this bog. Var. *calvescens* is habitally quite like the stricter states of *Paspalum setaceum* (details in plate 1058, figs. 1–3) but, whereas the leaves of true *P. setaceum* are densely appressed- or strigose-villous, those of var. *calvescens* are essentially glabrous,

with only few remote and short trichomes. The slight difference in the shape and breadth of the spikelets is well within the range of variation in the species. In its essentially glabrous foliage var. *calvescens* might be mistaken for *P. setaceum*, var. *longepedunculatum* (Le Conte) Wood (*P. longepedunculatum* Le Conte), but that extreme variety has shorter and broader leaves confined chiefly to the base of the plant and inclined to be loosely divergent (PLATE 1058, FIG. 4). Typical *P. setaceum* prefers dry siliceous habitats; var. *calvescens* grows in wet *Sphagnum* or peat. See p. 99.

*PANICUM (sub-§ LANUGINOSA) **glutinoscabrum,** sp. nov. (TAB. 1059), planta cespitosa 7–9 dm. alta; culmis firmis erectis basin versus 1.5–2 mm. diametro, internodiis 5 elongatis scabropuberulentibus, pilis minutis cinereis cum verrucis viscidis vel glutinosis adspersis; nodis villoso-barbatis; foliis caulinis primariis lanceolatis ad 7 cm. longis 7–8 mm. latis attenuatis utrinque breviter pilosis, pilis cum verrucis viscidis adspersis; vaginis papillato-verrucosis, glutinosis, breviter pilosis; ligulis 4–5 mm. longis aciculiformibus; paniculis primariis valde exsertis ovoideis 6–9 cm. longis 6–7 cm. diametro, rhachi minutissime puberulo, ramis adscendentibus; statu autumnali suberecto breviter ramoso, ramis adscendentibus 1–6 mm. longis, valde foliosis paniculis terminalibus ad 2 cm. longis; spiculis ellipsoideis subacutis 1.7–1.8 mm. longis 0.7–0.8 mm. crassis breviter hispidulis; gluma inferiore deltoideo-ovata subacuta 0.6–0.7 mm. longa, superiore lemmateque sterili aequilongis, fructum lucidum subaequantibus.—Nansemond County, VIRGINIA: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, September 8 and 12, 1946, *Fernald, Long & Clement*, no. 15,186 (TYPE in Herb. Gray.; ISOTYPE in Herb. Phil. Acad.).

Panicum glutinoscabrum is a perplexing plant to orient. In the general characters of inflorescence and relatively few primary nodes and autumnal axillary branches it seems to belong to sub-§ *Lanuginosa*, but its very glutinous or viscid quality is apparently unique. The blackish wart-like secreting glands which abound, especially on the sheaths and leaf-blades, are a striking character, the sheaths and internodes of the culm being scabridulous. See p. 99.

*ECHINOCHLOA STAGNINA (Retz.) Beauv. PRINCESS ANNE COUNTY: erect weed, very abundant in a cultivated field west of Chesapeake Beach, *Fernald, Long & Clement*, no. 15,182.

Echinochloa stagnina is a characteristic oriental species (southern Asia, Malayan Islands and Africa) with very tall, erect stems, erect leaves, hairy ligule and relatively slender stiffish panicles, not generally (if at all) recognized as naturalized in North America. At the station in Princess Anne County the very tall (about 1.5 m.) plants were superabundant as a weed and greatly overtopped the intended crop. Like so many invaders from Asia it will doubtless rapidly spread.

The binomials, *Echinochloa crusgalli* (L.) Beauv., *E. echinata* (Willd.) Beauv., *E. stagnina* (Retz.) Beauv. and four others, are regularly ascribed by Index Kewensis to Beauv. Agrost. 53 (1812) but it is quite certain that Palisot de Beauvois did not there make the combinations; he did not even give the authors or the bibliographic citations for the reputed basonyms. On p. 53 he defined the new genus *Echinochloa* and listed as *Panicum* its "Spec. Panicum *crusgalli*, *cruscorvi*, *echinatum*, *lanceolatum*, *setigerum*, *setosum*, *stagm*[*n*]*inum*, etc.". The combinations were not there made but in the Index, p. 161, they are all listed under *Echinochloa*, although two of them are entered with doubt: *E.* "setigera?" and *E.* "stagnina?". Obviously page 161 should be added to the usual reference, and we should strengthen the bibliographic reference for *E. crusgalli* by adding t. xi. fig. ii, for the detailed figures are definitely cited in Explic. Planches et Figs., 8, as of "Echinochloa *crus-galli*" (the hyphen here inserted, though not used by Linnaeus). If the wavering inclusion of *Panicum stagninum* Retz. be considered as not validating the combination *E. stagnina*, then the specialists on the *Gramineae* and upon bibliography have a little problem in deciding who first validated the combination. I leave it to them! See p. 101.

*E. pungens (Poir.) Rydb., var. ludoviciana (Wieg.) Fern. & Grisc. Nansemond County: wet peaty and sandy shore of Exchange Pond, southwest of Everett's Bridge, *Fernald, Long & Clement*, no. 15,181.

A striking dense-panicled extreme with awnless spikelets, heretofore known in the Mississippi and Gulf drainage, northeastward to western Pennsylvania. In its occurrence on the Coastal Plain joining a large series of similarly disjunct plants.

Andropogon scoparius Michx., var. littoralis (Nash) Hitchc. To the previously recorded stations add another in

PRINCESS ANNE COUNTY: border of fresh pond back of the dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,198.

A. ELLIOTTII Chapm., var. GRACILIOR Hack. To the relatively few recorded stations add another in NANSEMOND COUNTY: sphagnous and peaty bog (Magnolia swamp) by Norfolk and Western Railway, 1–1½ miles west of Kilby, *Fernald, Long & Clement*, no. 15,195.

CYPERUS RIVULARIS Kunth, forma ELUTUS (Clarke) Kükenth. Add a station in NANSEMOND COUNTY: fresh tidal shore of Western Branch, below Everett's Bridge, *Fernald, Long & Clement*, no. 15,201.

ELEOCHARIS FLAVESCENS (Poir.) Urban. PRINCESS ANNE COUNTY: tiny tussocks abundant at border of fresh pond back of the dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,207. Identification confirmed by Dr. Svenson, who, in RHODORA, xli. 47 (1939), had cited two early collections from Virginia Beach. See p. 100.

E. VIVIPARA Link. To the single station (Lake Joyce) recorded, under the synonym *E. prolifera* Torr., in RHODORA, xxxviii. 359 (1936), add the following. PRINCESS ANNE COUNTY: forming continuous turf at border of fresh pond back of the dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,212. SOUTHAMPTON COUNTY: wet peaty margin of Whitefield's Millpond, southwest of Corinth, *F. L. & C.*, no. 15,210; upper border of sandy and peaty shore of Darden's Pond, north of Courtland, *F. L. & C.*, nos. 15,211 and 15,213.

Plants (such as no. 15,211) with umbels of 2–several peduncled spikelets are singularly suggestive of *Fimbristylis* and *Bulbostylis*. See pp. 96 and 100.

E. TRICOSTATA Torr. To the two highly localized stations already known in eastern Virginia add one in SOUTHAMPTON COUNTY: upper border of sandy and peaty shore of Darden's Pond, north of Courtland, *F. L. & C.*, no. 15,214, See p. 101.

IS DICHROMENA LATIFOLIA IN VIRGINIA?—So far as I can determine *Dichromena latifolia* Baldwin was first recorded as perhaps occurring in Virginia in Gray, Man. ed. 5: 567 (1867) but as from "S. Virginia? and southward". In the 6th and 7th editions the mark of interrogation was dropped, although I am unable to find any evidence in the material which Gray had before him of its coming north of eastern North Carolina. Any evidence of it in the state will be welcomed. See pp. 86 and 88.

PSILOCARYA SCIRPOIDES Torr., var. GRIMESII Fernald & Griscom. To the few known stations, in Princess Anne, Norfolk

and Nansemond, add one farther inland, in SOUTHAMPTON COUNTY: upper border of sandy and peaty shore of Darden's Pond, north of Courtland, *Fernald, Long & Clement*, no. 15,206.

*P. NITENS (Vahl) Wood. SUSSEX COUNTY: sandy and peaty shore of Airfield Millpond, southwest of Wakefield, *Fernald & Long*, nos. 14,898 and 14,899. The first from between southeastern North Carolina and Cape May, New Jersey, already recorded in RHODORA, xlviii. 58 (1946). See p. 87.

RHYNCHOSPORA CHALAROCEPHALA Fernald & Gale. To the two recorded stations in the state (one in Isle of Wight, one in Norfolk) add one in NANSEMOND COUNTY: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,227. See p. 98.

R. DEBILIS Gale. To the several stations (in Princess Anne, Isle of Wight, Sussex, Southampton, Dinwiddie, Prince George and Chesterfield) cited in the original publication add two in NANSEMOND COUNTY: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,226; similar habitat, 1–1½ miles west of Kilby, no. 15,218. See p. 98.

R. RARIFLORA (Michx.) Ell. To the scattered stations from Princess Anne to Amelia, Dinwiddie and Greensville add one in NANSEMOND COUNTY: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,225. See p. 98.

R. PERPLEXA Britton, var. **virginiana,** var. nov. (TAB. 1060, FIG. 5–8), planta a var. typica differt culmis foliisque plerumque crassioribus; spiculis 2.5–3 mm. longis sessilibus vel subsessilibus congestis; tuberculo depresso late rotundato.—Southeastern VIRGINIA. Dinwiddie County: wet argillaceous depressions south of Petersburg, July 14, 1938, *Fernald & Long*, no. 8603; flat pineland, Collier's Yard, 3–4 miles southwest of Petersburg, August 17, 1939, *Fernald & Long*, no. 10,981; same station, August 17, 1939, *Smith & Hodgdon* in Pl. Exsicc. Gray., no. 924; depression in argillaceous woods west of Winfield's Mill, October 13, 1941, *Fernald & Long*, no. 13,903. Sussex County: wet peaty depression in pineland 3 to 4 miles northwest of Waverly, June 12, 1938, *Fernald & Long*, no. 8115; upper border of sandy beach, Airfield Millpond, southwest of Wakefield, July 6, 1942, *Fernald & Long*, nos. 14,297 and 14,298. Southampton County: upper border of sandy and peaty shore of Darden's Pond, north of Courtland, September 15 and 16, 1946, *Fernald, Long & Clement*, no. 15,231 (TYPE in Herb. Gray.; ISOTYPE in Herb. Phil. Acad.). Greensville County: pond-hole in pine and oak woods near Three Creek, north of Emporia, September 19, 1938, *Fernald & Long*, no. 9282. Surry County: exsiccated argillaceous pond-hole in

woods, about 1 mile south of Mercy Seat Church, August 23, 1938, *Fernald & Long*, no. 8989.

Typical *Rhynchospora perplexa* (our PLATE 1060, FIGS. 1–4) has, as Dr. Gale described and illustrated it, in RHODORA, xlvi. 270, plate 832, fig. 3B (1944), the "tubercle broadly deltoid", the straight sides sloping to a definite terminal angle. This is the characteristic tubercle of the type-series from Chapman (our FIG. 2) and in essentially all material from south of Virginia, only a very exceptional individual (as in the central one of FIG. 3 and the right-hand ones of FIG. 4) showing a slightly round-topped tubercle. In all the Virginian material the tubercle is more depressed and broadly rounded above and the sessile or subsessile spikelets are 2.5–3 mm. long, the often less crowded or definitely pedicelled spikelets of the more southern typical *R. perplexa* being only 2–2.5 mm. long. In general, furthermore, the Virginian series shows rather stouter culms and broader channeled leaves, although this tendency is not specially significant. The depressed and round-topped skullcap-like tubercle and the larger and more nearly sessile spikelets sufficiently mark the Virginian series as a relatively northern variety, which is apparently isolated by 150 miles from the northern limit of typical *R. perplexa*. With the material in most of the larger herbaria before her and the rich collections from North Carolina in the herbarium of the University of North Carolina and the very full North Carolina series assembled by Godfrey, Dr. Gale could cite only one collection from the state, that from Columbus County[1] in the southeastern corner of the state, fully 150 miles south of the Virginian area. See pp. 98 and 101.

CLADIUM MARISCOIDES (Muhl.) Torr. To the previously known eastern Virginian stations (along North Landing and Northwest Rivers) add another in PRINCESS ANNE COUNTY: border of fresh pond back of the dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,233. See p. 100.

SCLERIA MINOR (Britton) Stone. To the few recorded stations, from farther inland, add one in NANSEMOND COUNTY: sphagnous and peaty bog south of Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald & Moore*, no. 15,050. See p. 94.

*CAREX MESOCHOREA Mackenz. SURRY COUNTY: rich low woods west of Claremont, *Fernald & Moore*, no. 15,056.

[1] A glance at the map suggests caution about rushing unprepared into Columbus County for botanizing; at least, the names of two of the villages, Bughill and Redbug, were not bestowed as inducements to tourists.

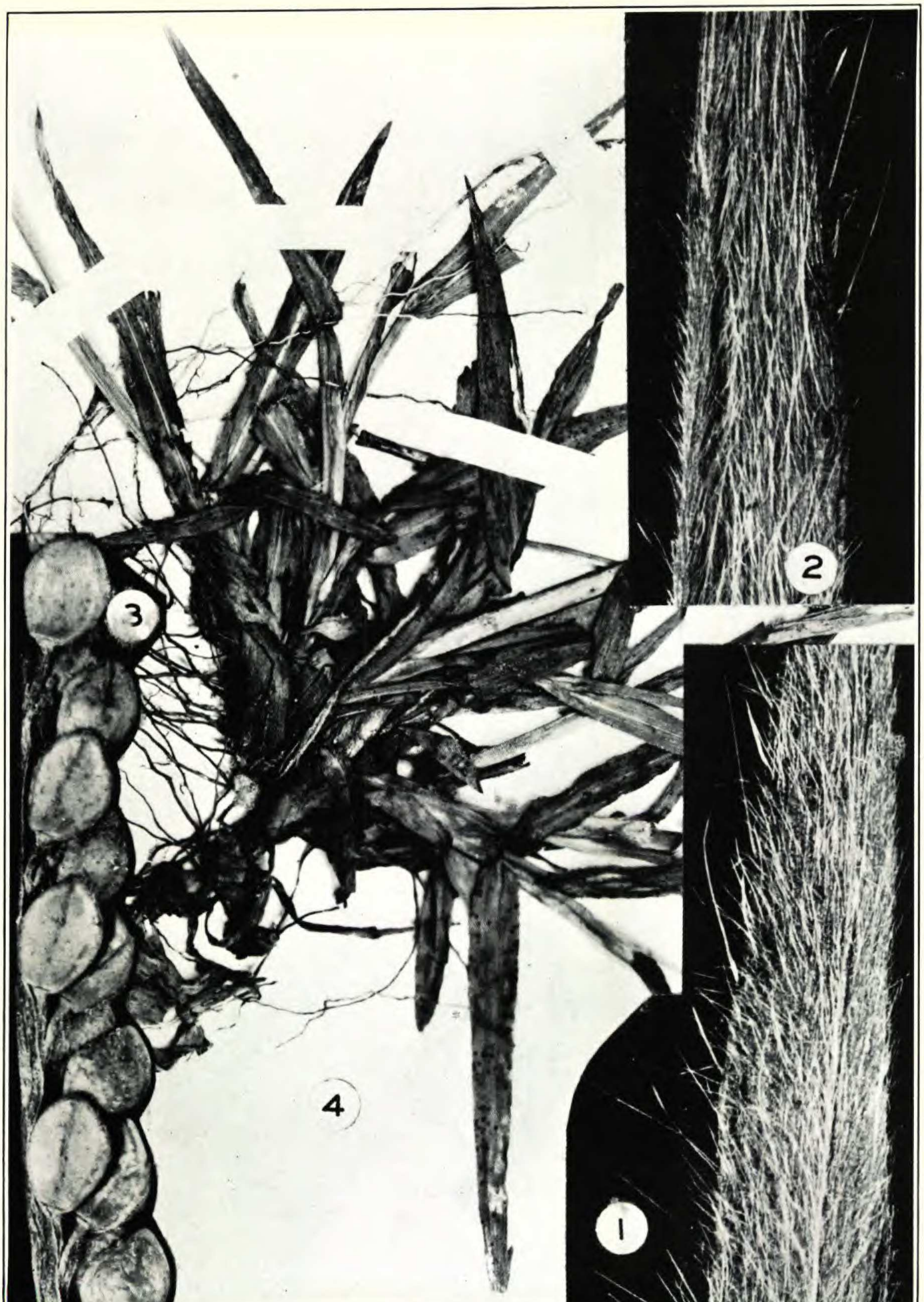

Photo B. G. Schubert

PASPALUM SETACEUM: FIG. 1, lower, and FIG. 2, upper leaf-surface, × 10; FIG. 3, spikelets, × 10.

P. SETACEUM, var. LONGEPEDUNCULATUM: FIG. 4, base of plant, × 1.

Photo B. G. Schubert

PANICUM GLUTINOSCABRUM, all figs. from TYPE: FIG. 1, plant, × ½; FIG. 2, axillary autumnal panicle, × 5; FIG. 3, surface of culm, × 10; FIGS. 4 and 5, leaf-surfaces, × 10; FIG. 6, summit of sheath and ligule, × 10; FIG. 7, axis of panicle, × 10; FIG. 8, spikelets, × 10

Not recorded by Mackenzie, in N. Am. Fl., from Virginia. Possibly already known in the state.

C. DECOMPOSITA Muhl. To the scattered stations, all in cypress-swamps, already recorded in James City, Isle of Wight and Southampton add one in SUSSEX COUNTY: on stumps of *Taxodium*, Niblett's Millpond, southwest of Newville, *Fernald & Long*, no. 14,912.

C. HORMATHODES Fernald. To the few known Virginian stations, along the lower James River, add one not far from the North Carolina boundary in PRINCESS ANNE COUNTY: borders of shallow pools in brackish to fresh marsh along Back Bay, Pellitory Point, east of Munden, *Fernald & Moore*, no. 15,053. Less than 5 miles from North Carolina. See p. 95.

C. RENIFORMIS (Bailey) Small. To the single known Virginian station in western Southampton add another in eastern SOUTHAMPTON COUNTY: dry sand of open alluvial flat by Blackwater River, southeast of Unity, *Fernald & Moore*, no. 15,055.

*C. CRINITA Lam., var. BREVICRINIS Fernald in RHODORA, xlviii. 54 (1946). Type from near Rowanta, Dinwiddie County. Many stations in James City, Sussex, Dinwiddie and Brunswick Counties.

C. MITCHELLIANA M. A. Curtis. To the few recorded stations add one in NORFOLK COUNTY: mixed with *Scirpus Olneyi* in fresh tidal reed-marsh along Northwest River below Northwest, *Fernald & Moore*, no. 15,058. See p. 95.

C. DEBILIS Michx., var. RUDGEI Bailey. To the few recorded stations add one in SURRY COUNTY: low rich woods west of Claremont, *Fernald & Moore*, no. 15,061.

*LEMNA VALDIVIANA Philippi, var. ABBREVIATA Hegelm. NORFOLK COUNTY: in a spring at sandy and peaty margin of Lake Drummond, near Jericho Ditch, Great Dismal Swamp, west of Wallaceton, *Fernald & Long*, no. 13,575.

A striking and very extreme variety of the common *L. valdiviana*, its transclucent and veinless fronds broadly elliptic or oval, instead of much narrower. The first in the Gray Herbarium from north of Florida. Hegelmaier described it from tropical South America and Mexico, extending north to Florida and California.

ERIOCAULON DECANGULARE L. To the two recorded stations (in Norfolk and Prince George) add a very extensive one in SUSSEX COUNTY: wet sandy and peaty shore of Airfield Millpond, southwest of Wakefield, *Fernald & Long*, nos. 14,923 and 14,924. See p. 87.

E. Parkeri Robinson. Add a station in Nansemond County: fresh tidal shore of Western Branch, below Everett's Bridge, *Fernald, Long & Clement*, no. 15,238.

Lachnocaulon anceps (Walt.) Morong. Local range extended eastward in Nansemond County: sphagnous and peaty bog (Magnolia swamp) by Norfolk and Western Railway, 1–1½ miles west of Kilby, *Fernald, Long & Clement*, no. 15,239. See p. 99.

Exit Syngonanthus flavidulus.—*Syngonanthus flavidulus* (Michx.) Ruhland stands in our manuals as a Virginian. Nevertheless, the failure during several seasons to find it in the proper habitat, white sands of pine-barren in spring or early summer, has naturally raised doubt as to the record. The species started as *Eriocaulon flavidulum* Michaux, Fl. Bor.-Am. ii. 166 (1803) "Hab. in Carolina." The type-sheet, of which a photograph is before me, bears no record of locality and "Carolina" may have been assumed by L. C. Richard after Michaux's death. At least, Elliott, Sketch Bot. S. C. and Ga. ii. 567 (1824), could do no more than say "In Carolina. Mich. Pursh. I have not met with this species in the low country of Carolina". No Virginian material of it exists in the principal herbaria of the country and the only Carolina specimen in the Gray Herbarium is one without original label, said to have come from Charleston, South Carolina. Certainly Godfrey, in his extensive collecting for the Gray Herbarium in eastern North Carolina, and Godfrey and Tryon, vigorously collecting in eastern South Carolina, did not secure it. In eastern Georgia and in Florida it becomes common in dry to wet sands.

There is, however, little doubt that more than a century ago M. A. Curtis got it in southeastern North Carolina. His *Enumeration of Plants growing spontaneously around Wilmington, North Carolina*, had it entered with doubt, but his "Remark" seems conclusive: "(39) *Eriocáulon flavídulum?* Stem pubescent, 5 grooved; Leaves short, 1–2 inches long; Scales of the involucrum oblong oval, obtuse, lucid. This appears to be Michaux's plant, but I am not certain that it is Elliott's."

Seeking the source of the more northern records, one automatically turns to Pursh, the author of many errors. There is the clue. Pursh, Fl. Am. Sept. i. 92 (1814), obviously rewrote the original Michaux description of *Eriocaulon flavidulum*, changing

Michaux's "culmis . . . 5-striatis" to "scapis . . . subseptem-striatis" and describing the narrowly oblong involucral bracts of Michaux's plant as "squamis involucri suborbiculatis". These alterations at once indicate that Pursh did not have the Michaux species at all; and Pursh's statement of habitat and range clearly show that his 7-striate scape and suborbicular bracts were those of *Eriocaulon Parkeri* Robinson. Here were Pursh's words: "On the banks of rivers, below high-water mark: Pensylvania to Carolina. ⊙. July. *v. v.* From one to two inches high." *E. Parkeri*, found on tidal mud of the Delaware River (well known to Pursh), is in such habitats southward nearly to the North Carolina line but, doubtless, the "Carolina" of Pursh's range was merely borrowed from Michaux. Furthermore, *Syngonanthus flavidulus*, flowering in April and May ("Spr."—*Small*) is very strikingly perennial, with hard or subligneous base; *Eriocaulon Parkeri* is a soft-based plant, strongly simulating an annual, and on the lower Delaware it begins flowering in July. Pursh's "⊙. July" was obviously based upon it. When Elliott stated that *Eriocaulon flavidulum* had not been met by him, he added the misleading "Grows in inundated soils. Pursh." Others continued the confusion, though gradually reducing the northern limit to "Va." or "Va.?"; but Ruhland, in publishing the combination in Engler, Pflanzenr. iv[30], 256 (1903) wisely omitted the Pursh reference and restricted *Syngonanthus flavidulus* to "Carolina, Georgia, Florida", although he could have added Alabama. We may safely drop it from the Virginian list. See p. 86.

*Xyris Bayardi Fernald in Rhodora, xlviii. 56, plate 1007 (1946). Sussex County: wet sandy and peaty shore of Airfield Millpond, southwest of Wakefield, *Fernald & Long*, no. 14,922.

A remarkable little annual, the most northern member of the chiefly tropical *Xyris* § *Brevifoliae*. A small area covered by it in 1945, but the breaking of the dam had drained the pond in early 1946 and no evidence of the tiny *Xyris* and of several other species seen in 1945 could be found in 1946, while plants which were scarce in 1945 had increased to relative abundance in 1946. Another and more favorable year will doubtless bring it back, since the seeds must have been well dispersed. See p. 88.

X. flexuosa Muhl. (*X. arenicola* Small). Local range extended farther east in Nansemond County: large stools in

sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,237. See p. 99.

Is Mayaca in the "Manual Range"?—Michaux, Fl. Bor.-Am. i. 26 (1803), described *Mayaca Aubleti* "a Carolina ad Floridam." A few years later Pursh, without mentioning Michaux, cited in his Fl. Am. Sept. i. 32 (1814) *Syena fluviatilis* (Aublet) Willd., based on *Mayaca fluviatilis* Aubl., as growing "In small rivulets of Virginia and Carolina." Later works have credited *M. Aubleti* to both Virginia and Ohio. Both species extend northward into the Coastal Plain of North Carolina: *M. Aubleti* at least to Cumberland County; *M. fluviatilis* to Scotland County. Either of them might be expected, along with other plants of similar range, in southeastern Virginia; but intensive watching of all rills and small branches as well as inundated pond-margins has thus far failed to reveal them. In view of Pursh's well known lack of precision the question naturally arises, whether he may not have seen one of the serpentine and flaccid inundated states of *Lycopodicum inundatum* L., var. *Bigelovii* Tuckerm.[1] such as abound on inundated shores near where Pursh is known to have resided in Southampton County, Virginia, and which so strongly simulate *Mayaca fluviatilis* as to raise the hopes of searchers for the latter. I am aware that in his Aquatic Plants of the United States, 191, map 202 (1944), Muenscher indicates the occurrence of *M. Aubleti* in Virginia and Ohio (on the bases of traditional records) and also in Pennsylvania. Inquiry brings from Dr. Muenscher the statement that he has seen no material from north of the Carolinas. It now becomes important to know if there are actual specimens of either species of *Mayaca* from north of North Carolina. See pp. 86 and 88.

*Juncus scirpoides Lam., var. meridionalis Buchenau. Though known for several years, apparently not definitely recorded as Virginian. Northampton County: moist dune-hollows, Savage Neck, *Fernald, Long & Fogg*, nos. 5263 and 5264. James City County: wet bottomland about 5 miles west of Toano, *Menzel*, no. 80. Princess Anne County: wet peaty depressions in sandy pineland, the Desert, Cape Henry, *Fernald & Long*, no. 3842. Nansemond County: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,240. Amelia County: argillaceous bog about 1 mile north of Winterham, *Fernald & Long*, no. 9018.

Juncus polycephalus not known from Virginia.—Apparently the record of *J. polycephalus* Michx. from Virginia rests

[1] See Fernald in Rhodora, xlvi. 134–136 (1946).

only upon a suggestion made by Engelmann in Gray, Man., ed. 5: 543 (1867). There, Engelmann, considering *J. polycephalus* and some others varieties of an all-inclusive *J. scirpoides* Lam., said under *J. scirpoides* var. *polycephalus* (Michx.) Engelm., l. c. "From North Carolina southward; and may be looked for in Southern Virginia". In the 6th edition of the Manual (by Sereno Watson, whose field-experience had been west of the Rocky Mountains, and by Coulter, who had early done some exploring in the Rocky Mountains) the tentative phrase was omitted and the range given as "S. Va. to Fla., west to Mo. and Tex."; and the extension northward to southern Virginia was trustingly retained in the 7th edition. In 1895, however, Coville, in his detailed study of the section, Bull. Torr. Bot. Cl. xxii. 302–305, showed that the *J. polycephalus* of most authors was at least two species: *J. polycephalus* (true), extending north only into North Carolina; *J. validus* Coville, the plant of Arkansas (and Missouri). Since, however, true *J. polycephalus* comes north to Tyrrell County on the southern side of Albemarle Sound in northeastern North Carolina (10 miles north of Fairfield, *Godfrey*, no. 4337), only 45 miles south of the tidal marshes and savannas of Northwest and North Landing Rivers and of Back Bay (northern extensions of Albemarle Sound), Engelmann's surmise may yet be justified. "Here's hoping". [1]

Juncus polycephalus was reported from various stations on the coast of Worcester Co., Maryland by Rev. Paul J. Redmond in his Flora of Worcester County Maryland, Contrib. Biol. Lab. Cath. Univ. Am. no. 11: 74 (1932). Dr. Hugh O'Neill writes me, however, that the material deposited at the Catholic University was destroyed by fire and there is serious doubt of the identification. He personally knows the region and has never seen *J. polycephalus* there.

J. CANADENSIS J. Gay, forma CONGLOBATUS Fernald. To the single Virginian station cited (in Brunswick County) add one in

[1] Generally *Juncus polycephalus* has simple globose heads of flowers. In Scotland County, North Carolina there occurs a plant like it in every way except that its heads are strongly lobulate, each head consisting of 2–5 subellipsoid and elongate crowded spikes. Since the parallel variation in *J. scirpoides* Lam. (var. *meridionalis* Buchenau) occurs as uniform colonies, not as sporadic individuals, the similar variation in *J. polycephalus* is presumably a variety rather than a form. I am calling it

JUNCUS POLYCEPHALUS Michx., var. **schizocephalus,** var. nov., a var. typica recedit capitibus lobulatis lobis elongatis.—NORTH CAROLINA: shallow stream, 15 miles north of Laurinburg, July 14, 1938, *Godfrey*, no. 5050 (TYPE in Herb. Gray.).

Princess Anne County: border of fresh pond back of the dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,242.

J. canadensis, var. euroauster Fernald. To the stations (in Princess Anne, Norfolk, Sussex, Henrico and Greensville) originally cited add one in Southampton County: upper border of sandy and peaty shore of Darden's Pond, north of Courtland, *Fernald, Long & Clement*, no. 15,241. See p. 101.

Zigadenus densus (Desr.) Fernald in Rhodora, xlii. 245 (1940).

As noted on p. 93 the very few and small plants of a few years ago, at the only known Virginia station, the little sphagnous bog northwest of Dahlia in Greensville County, have been stimulated by burning-off of the bog. The plants in June, 1946, numbered 25. Although the herbarium-specimens from farther south justify Small's measurement of the "raceme cylindric, 5–10 cm. long, about ½ as thick" (as *Tracyanthus angustifolius* (Michx.) Small), the larger stimulated plants had the simple or basally branching racemes up to 4 dm. long and 5 cm. thick, the plants reaching a height of 1.65 m., instead of stopping at Small's maximum of 1 m. (10 dm.).

*Stenanthium gramineum (Ker) Morong, var. micranthum Fernald in Rhodora, xlviii. 148, plate 1041 (1946). Occurring from western Virginia along the mountains to northwestern Florida and Alabama. I have seen Virginia material from Augusta County: at 540 m. alt., ridge of Little North Mountain, vicinity of Stribling Springs, *Steele*, no. 49.

Allium vineale L. occurs as three often well defined forms. Typical *A. vineale* has the umbel of numerous bulbs mixed with flowers; forma *capsuliferum* (Koch) Asch. & Graebn. is nearly or quite without the bulbs but has very many fertile flowers; forma *compactum* (Thuill.) Asch. & Graebn. has the umbel wholly of bulbs. All three occur in eastern Virginia (unfortunately). Besides typical *A. vineale* I have before me

*Allium vineale L., forma capsuliferum (Koch) Asch. & Graebn. Elizabeth City County: Hampton, *A. B. Seymour*, no. 19. James City County: Williamsburg, *Grimes*, no. 3787. Brunswick County: bottomland of Pope Creek, southeast of Ebony, *Fernald*, no. 14,591. Mecklenburg County: old field, north of Clarksville, *F. R. Fosberg*, no. 15,461.

*A. vineale L., forma compactum (Thuill.) Asch. & Graebn. Norfolk County: "Western Branch, Julio 1840", *F. Rugel.*

LILIUM MICHAUXII Poir. To the few and scattered stations on the Coastal Plain of Virginia add the following. PRINCE GEORGE COUNTY: several large plants in argillaceous and boggy depression north of Gary Church, *Fernald & Moore*, no. 15,072. DINWIDDIE COUNTY: small and single-fruited plants in flat pineland slightly south of Petersburg, *Fernald, Long & Clement*, no. 15,245. SUSSEX COUNTY: a single large plant at foot of roadside fill bordering a swampy depression in sandy pinelands 3 to 4 miles northwest of Waverly, *Fernald, Long & Clement*, no. 15,245—perhaps travelling by car; if so, preferable to most adventives.

HYPOXIS MICRANTHA Pollard. To the very few Virginian stations add another in NANSEMOND COUNTY: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,248. See p. 99.

IRIS PRISMATICA Pursh, var. **austrina,** var. nov., foliis surculorum 5–9 mm. latis valde sulcato-costatis, valvis spathae firmis subcoriaceis brunneis vel viridescentibus, flore 8–10 cm. lato, tubo perianthii 5–6 mm. longo, sepalis spathulato-obovatis lamina cuneata, seminibus 4–6 mm. longis.—Acid swamps, wet barrens and shallow pools, mountains of Tennessee and North Carolina to Georgia, east to the Piedmont and Coastal Plain of southeastern Virginia and North Carolina. VIRGINIA: wet depression in pineland 3 to 4 miles northwest of Waverly, July 26, 1936, *Fernald & Long*, no. 6170, June 7, 1946, *Fernald & Moore*, no. 15,074 (TYPE in Herb. Gray, ISOTYPE in Herb. Phil. Acad.), September 9 and 11, 1946, *Fernald, Long & Clement*, no. 15,250; wet ground along railroad, Ashland, May 26, 1932, *H. B. Meredith;* Richmond, May, 1838, collector not stated, May 10, 1894, *J. R. Churchill;* low, wet open woods and marshes, Westwood Golf Course, near Richmond, 1931, *C. Thompson;* exsiccated argillaceous swale, Libbie Avenue, Westhampton, June 21, 1936, *Fernald, Long & Smart*, no. 5735. NORTH CAROLINA: moist, acid, sandy soil, between Bunn and Wake Forest, Franklin County, May 27, 1937, *Blomquist*, no. 9257; wet meadows near Hendersonville, Henderson County, May 26, 1898, *Biltmore Herb.* no. 2596[a]. GEORGIA: Butler, Taylor County, August, 1877, *H. M. Niesler*. TENNESSEE: abundant in grassy swamp, oak barrens, alt. 1100 ft., Tullahoma, Coffee County, August 24, 1930, *Svenson*, no. 4269; flowering specimen raised from seed of latter, grown at Brooklyn Botanic Garden, June 6, 1933, *M. Putz;* wet barrens along road between Tullahoma and Manchester, May 18, 1937, *Svenson*, no. 10,259.

Typical *Iris prismatica*, described by Pursh from New Jersey, occurs most often on brackish to saline (sometimes fresh) marshes, sands, shores or meadows along the coast from north-

eastern Maryland and Delaware to southern Maine, with a few stations inland to 30 miles from salt water and an isolated area on salt marshes of eastern Cape Breton, 600 miles northeast of its northeastern limit in New England. The distinctive characters which separate the southeastern and inland var. *austrina* of fresh acid marshland are summarized below:

I. PRISMATICA: leaves terminating new stolons 2–5 mm. wide, shallowly or obscurely corrugated; valves of spathe pale brown, wholly or partly scariomembranaceous, the outer one rarely foliaceous; flower 5–7 cm. broad, with perianth-tube about 3 mm. long; blade of sepal ovate or obovate to roundish, 1.3–2 cm. broad, rather abruptly contracted to the broad claw; faces of capsule 6–14 (av. 9.6) mm. broad; seeds 3–4 mm. long.

Var. AUSTRINA: leaves terminating new stolons 5–9 mm. wide, deeply corrugate-sulcate; valves of spathe firm or subcoriaceous, either brown, or green and foliaceous; flower 8–10 cm. broad, with perianth-tube 5–6 mm. long; sepals spatulate-obovate, 1.2–1.7 cm. broad, the blade gradually tapering into the slender-based claw; faces of capsule 10–14 (av. 12.5) mm. broad; seeds 4–6 mm. long.

It is probable that *Iris prismatica*, var. *austrina* is the phylogenetic progenitor of the more northern and semi-halophytic *I. prismatica;* var. *austrina*, spreading out from the ancient Appalachian Upland to the younger Coastal Plain and there giving rise to the more northern and coastwise smaller plant which, in its extreme isolation on Cape Breton, suggests a northern migration along the now submerged continental shelf, such as we find in many plants which are isolated from the South in various parts of Nova Scotia.

SISYRINCHIUM CAPILLARE Bicknell. To the single recorded Virginia station (in Sussex County) add an extensive one in NANSEMOND COUNTY: sphagnous and peaty bog south of Norfolk and Western Railway, about ½ mile west of the brickyard, Kilby, *Fernald & Moore*, no. 15,075.

In fully ripe (or over-ripe) fruit on June 8, the stiff and wiry, very slender scapes inclined to spiral and with a bronzy or metallic luster. See p. 94.

*CANNA INDICA L. PRINCESS ANNE COUNTY: two slender purplish plants naturalized at border of swampy woods near Pungo, *Fernald & Long*, no. 10,596.

THE IDENTITY OF ISOTRIA MEDEOLOIDES.—*Isotria medeoloides* (Pursh) Raf. Fl. Tellur. iv. 47 (1838) rests on *Arethusa medeoloides* Pursh, Fl. Am. Sept. ii. 591 (1814). Under *Arethusa* Pursh's no. 5 was *A. verticillata* Willd. (i. e. Muhl. ex Willd.) with the description copied largely from Willdenow's original,

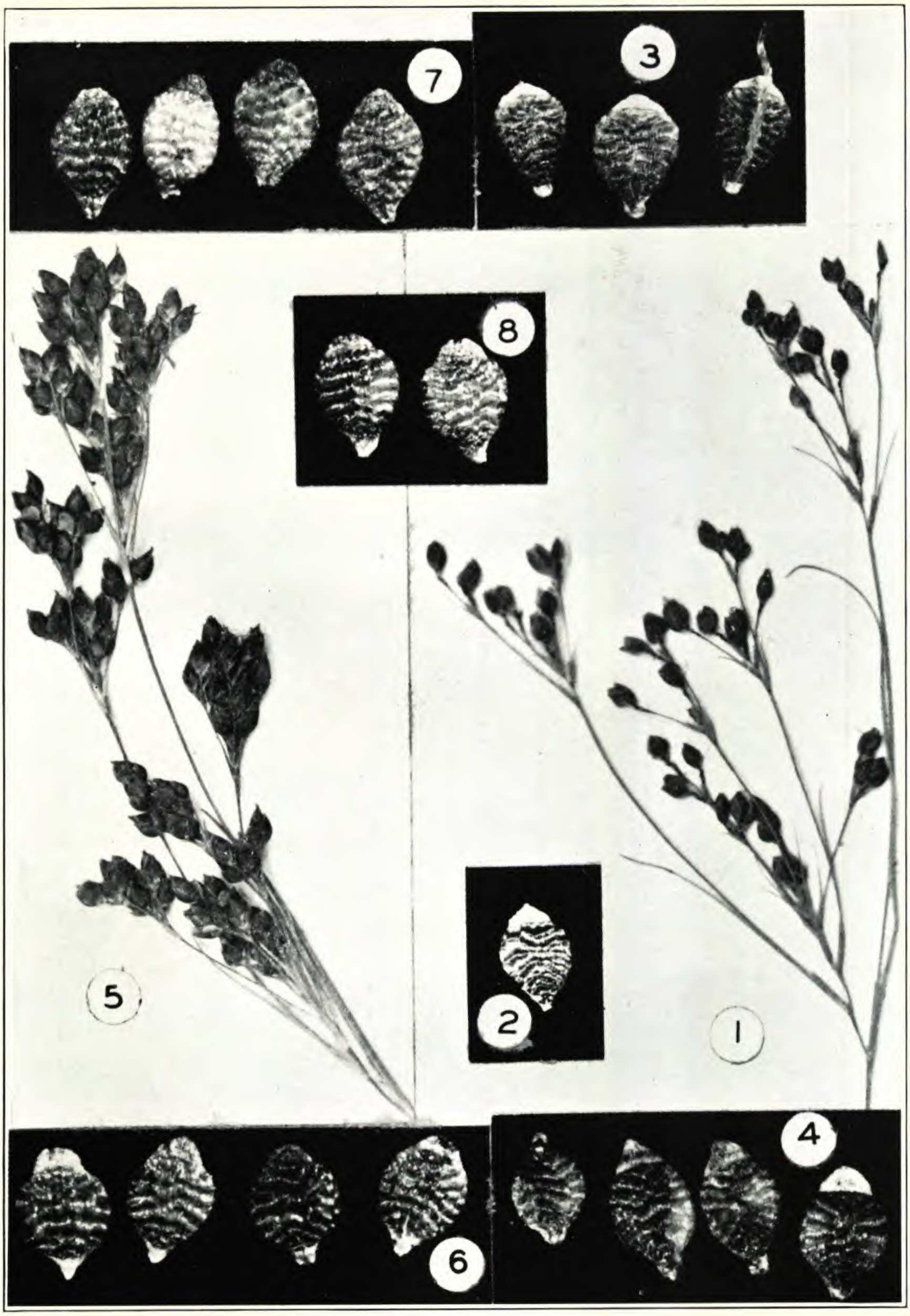

Photo B. G. Schubert

RHYNCHOSPORA PERPLEXA: FIG. 1, terminal corymb, × 1.8, from ISOTYPE; FIGS. 2–4, achenes, × 10.

Var. VIRGINIANA: FIG. 5, terminal corymb, × 1.8, from TYPE; FIGS. 6–8, achenes, × 10.

After photo. by H. E. Moore

NYMPHAEA ODORATA, var. STENOPETALA: "Water-nymphs in the G. D. Swamp."

"petalis tribus exterioribus longissimis linearibus" but adding "interioribus lanceolatis", the "flowers . . . of a dull purple mixed with yellow". This was a perfectly good characterization of *Isotria verticillata* (Muhl.) Raf., which Morris & Eames, Our Wild Orchids, 221 (1929), describing from fresh material, assign "SEPALS . . . brownish above, linear, spreading and recurved, 2 in. long . . . PETALS: yellow-green, nearly 1 in. long, lanceolate", the flowers "on long pedicels (½–1¾ in. long)". Beautiful drawings of the flower, with its very long sepals and long peduncle, and of the long-peduncled fruit will be found in Mrs. Ames's plates 105 and 106 in Ames, Orchidaceae, vii. (1922). They are, of course, shown in very many other illustrations.

Immediately following *Arethusa verticillata*, Pursh described his new species, *A. medeoloides:*

> 6. A. foliis verticillatis oblongis acuminatis, caule unifloro, flore subsessili, petalis tribus exterioribus linearibus, interioribus brevioribus oblongis obtusis, labello petalis consimile. *medeoloides*
>
> In shady woods on the Blue-mountains. *Vanvleck.* 2l. July. *v. s. in Herb. Vanvleck.* Resembles the preceding in general habit.

The subsessile (instead of long-stalked) flower is altogether too suggestive of the "*peduncle much shorter than the ovary and pod*" of the original description of *Pogonia affinis* Austin in Gray, Man. ed. 5: 507 (1868), Austin having supplied Gray with the contrasts, so that the description, immediately preceding, of *Pogonia verticillata* (Muhl.) Nutt. contained the supplementary note: "Stalk of pod about 1½′ long, more than half the length of the leaves". Mrs. Ames's accurate drawings in Ames, l. c., plate 107, of *Isotria affinis* (Austin) Rydberg definitely show the "flore subsessili" of Pursh's account, as do the fine photographs (plates 70 and 71) of Morris & Eames; while Pursh's "petalis . . . interioribus brevibus oblongis obtusis" are well shown in Mrs. Ames's figs. 1, 2 and 5.

Pogonia affinis was found by Austin in "Southern New York and Northern New Jersey", the specimen sent to Gray coming from Closter, New Jersey. In 1889, Cat. Pl. N. J. 233, Britton

listed it from stations in Bergen and Mercer Counties. House cites it for Rockland and Washington Counties (to which stations on Long Island could be added) in New York, and Porter listed three counties for it in eastern Pennsylvania, including Monroe, at the Delaware Water Gap, where the Delaware River cuts through the Kittatinny or Blue Mountains. Pursh's *Arethusa medeoloides* was from the "Blue-mountains", collected by Vanvleck. The Blue Mountains of Vanvleck's region were what are now known as the Kittatinny Mountains of southeastern mainland New York, northwestern New Jersey and eastern Pennsylvania (Lippincott's Gazetteer), just the region where *Pogonia affinis* has been collected. I can not bring myself to discard *Isotria medeoloides* as a pure synonym of *I. verticillata*, as I find it treated by recent students of the orchids. Whatever his inaccuracies and irregularities certainly were, Pursh did not, like Rafinesque and some others, often describe the same species twice on the same page. I am replacing the later name, *Isotria affinis* (Austin) Rydberg, by the much earlier I. MEDEOLOIDES (Pursh) Raf. A number of Virginia stations in JAMES CITY COUNTY.

*SPIRANTHES TUBEROSA Raf., var. GRAYI (Ames) Fernald in RHODORA, xlviii. 189 (1946). HENRICO COUNTY: dry rocky woods, campus of University of Richmond, September 21, 1934, *Alice Ryland.*

As pointed out by me, in RHODORA, l. c. 6 and 10 (1946), the plant which has erroneously passed as *Spiranthes Beckii* Lindl. (1840) must be called *S. tuberosa* Raf. (1833). Somewhat later, pp. 189–192, it was shown that typical *S. tuberosa*, common in eastern Virginia and southward, has a 1-sided or essentially secund spike, its flowers rather distant and not very strongly overlapping. In New England, south rarely to Virginia, var. *Grayi* occurs, the spike definitely spiraling, its numerous close spirals with crowded flowers.

*S. LACERA Raf. PRINCESS ANNE COUNTY: clay ditches bordering pine woods, Virginia Beach, *Fernald & Long*, no. 3873; sandy pineland, Cape Henry, *Fernald, Griscom & Long*, no. 4618; both distributed as *S. gracilis.*

For detailed discussion and illustration see Fernald in RHODORA, xlviii. 5 and 6–9, plate 993 (1946).

LIPARIS LILIFOLIA, not L. LILIIFOLIA.—The plant which regularly passes as *Liparis liliifolia* and as of "(L.)" Richard ex Lindl. in Bot. Reg. xi. sub pl. 882 (1825) started in L. Sp. Pl. 946 (1753) as *Ophrys lilifolia*. The name was not from *Lilium*, as often inferred and which would be almost absurd as applied to our small scapose plant with two or three basal leaves, but apparently from *Lilia*, the name of a class of plants chiefly with one to few basal leaves set up by Gmelin in 1747 for such genera as *Convallaria*, *Hemerocallis*, *Erythronium*, etc. Had Linnaeus followed the pattern for most such names he would have used the connective *ae* but in this case he definitely did not do so. His *Ophrys lilifolia* was from "Virginiae, Canadae, Sueciae", the type being a Virginian specimen from Clayton, who discovered the species on May 26, 1741 ("Die 26. Maji Anni 1741 florentem inveni"—Clayton in Gron. Fl. Virg. pars 2: 185 (1743)), an item such as one rarely finds in this early work. Linnaeus clinched the Virginian plant as his type through his description: "*Planta* virginica *sexies major nostrate* [*Sueciae*], *at structura eadem, notabilis flore: petalis exterioribus linearibus.*" Through three editions of Species Plantarum (ed. 3 in 1764) and through many editions of his Systema, Linnaeus consistently had *Ophrys lilifolia*, although in late editions he frequently altered the spellings used for names in his first editions. In Syst. Nat. ed. 12, ii. 592 (1767), it got printed, doubtless through a *lapsus calami*, as *O. linifolia*.

Index Kewensis has under *Ophrys* "*lilifolia*, Linn. Sp. Pl. 946 = Liparis liliifolia", the original spelling not being maintained under *Liparis*. The first transfer of *Ophris lilifolia* to another genus seems to have been as *Malaxis liliifolia* Swartz in Vet. Akad. Nya Handl. Stockh. xxi. 235 (1800), this starting the spelling with the double *ii*, as if the name came from *Lilium*. After that authors varied, some using correctly the original form but being cited by the less careful as doing just the opposite! Thus, although Robert Brown in Ait. f. Hort. Kew. ed. 2, v. 208 (1813) had it correctly as *Malaxis lilifolia*, when the plant was put into *Liparis* as *L. liliifolia* Richard ex Lindl. l. c., Lindley cited as synonyms, not the Linnaean reference at all but "Ophrys liliifolia, *Bot. rep.*" and "Malaxis liliifolia. *Br. in Ait. Kew. ed. 2.*" Nevertheless, Andrews, Bot. Repos. i. pl. LXV (1797), had it,

with absolute correctness, as *O. lilifolia* and Robert Brown, following the original spelling, had *Malaxis lilifolia*. The change of spelling, started apparently by Swartz, continued by Willdenow and repeatedly carried on by Lindley and his trusting followers, has been regularly accepted by more recent students of the orchids, who have found that course much easier than the time-consuming and exacting tracing of the name to its source.

HEXALECTRIS SPICATA (Walt.) Barnh. Local range extended eastward into NANSEMOND COUNTY: rich sandy and loamy oak and hickory woods just east of Suffolk, *Fernald, Long & Clement*, no. 15,251, the plants well fruiting. Station indicated to us by Mr. Leslie Hubricht. See p. 96.

*CARYA OVALIS (Wangh.) Sarg., var. HIRSUTA (Ashe) Sarg. SOUTHAMPTON COUNTY: wooded alluvial bottomland of Meherrin River, near Haley's Bridge, *Fernald & Long*, no. 8232. Large trees with flakey and shallowly furrowed bark. Extension from North Carolina.

*ALNUS SERRULATA (Ait.) Willd., forma NOVEBORACENSIS (Britton) Fernald in RHODORA, xlvii. 358, plate 985 (1945). Specimens cited from Princess Anne, Southampton, and Greensville Counties.

*A. SERRULATA, var. SUBELLIPTICA Fernald, l. c. plate 986 (1945). Specimens cited from Nansemond and Charlotte Counties.

*A. SERRULATA, var. SUBELLIPTICA, forma MOLLESCENS Fernald, l. c. 359, plate 988 (1945). Specimen cited from Princess Anne County.

*A. SERRULATA, var. SUBELLIPTICA, forma NANELLA Fernald, l. c. 360, plate 989 (1945). Specimens cited from Brunswick (TYPE) and Prince George Counties.

QUERCUS ALBA L. occurs in three pronounced forms (by Sargent treated as varieties). Typical *Q. alba* has the leaves with median portion of the blade only 0.5–2.5 cm. broad, the longer of the 4–10 narrowly oblong entire to slightly lobulate or apically cut lobes 2.5–8 cm. long and 0.8–2 (rarely –3) cm. broad. Forma *latiloba* (Sarg.) Palmer & Steyerm. (var. *latiloba* Sarg.) has the blades usually cleft less than half-way to the midrib, the round-tipped broadly oblong lobes 1.5–4 cm. broad. Forma *repanda* (Michx.) Trel. (var. *repanda* Michx.) has a shallowly sinuate margin, the rounded lobes as broad as long. They all occur in Virginia. The following specimens from the Coastal Plain or near it are characteristic.